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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,494	12/12/2005	Olaf Schrey	FHG02F40689	3117

24498	7590	06/26/2007
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PATENT OPERATIONS		
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EXAMINER	
LEE, PATRICK J	

ART UNIT	PAPER NUMBER
2878	

MAIL DATE	DELIVERY MODE
06/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/560,494

Applicant(s)

SCHREY ET AL.

Examiner

Patrick J. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 8,10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12122005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because no drawings were included with the original filing of the specification. For examination purposes, it will be assumed that the figures in the PCT application are the figures for this application. Even with the PCT figures, new figures are required because the text within the figures is not in English. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-7, 9, & 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,572,074 to Standley.

With respect to claim 1, Standley discloses a photosensor circuit comprising: photodetector (12) as a receiver which outputs an output signal in dependence on the electromagnetic radiation; switch (34) as a means for varying a sensitivity of receiver (12) between two sources (V_{bias} and I_{bias}) to connect to receiver (12) and to change the stored energy; photosensor circuit (20, 40) as an energy store connectable to receiver (12) and whose stored energy is changed in accordance to output signal; and a control means is inherent in toggling between the two modes that switch (34) provides. However, Standley does not explicitly disclose the varying of the sensitivity such that between two successive resetting events, the sensitivity is high once and low once. Standley does disclose that there is a voltage mode output to have high sensitivity to contrast within the image, but a lower sensitivity when the spread from the average intensity is smaller (see column 4, lines 40-47). To modify the teachings of Standley to modify the sensitivity between two successive resetting events is known in the art and would have been obvious to one of ordinary skill in the art because this would give the

device the versatility to have an increased range of operation to be effective in all different types of lighting environments.

With respect to claim 2, the modified Standley discloses the device as previously described. Standley discloses photosensor (12) to be a photodiode, but does not explicitly disclose the photodiode to have a semiconductor pn transition. However, semiconductor pn transitions are well known in the art and would have been obvious to one of ordinary skill in the art because the semiconductor pn transitions would provide accurate signals of the lighting to effectively function as a detector.

With respect to claim 3, the modified Standley discloses source (V_{bias}) as a controllable voltage source for applying a variable cutoff voltage.

With respect to claims 4-7, the modified Standley discloses the device as previously described. However, the modified Standley does not explicitly disclose the energy store as a capacitance. To use a capacitor is known in the art for signal storage and would have been obvious to one of ordinary skill in the art because the capacitor would allow for significant storage of the signal with as little leakage as possible.

With respect to claim 9, the modified Standley discloses the device as previously discussed. The modified Standley does not disclose the use of a shield. However, the use of shield is known in the art and would have been obvious to one of ordinary skill in the art in order to prevent extraneous light from adversely affecting the signal output by the device.

With respect to claims 12-13, the modified Standley discloses the device as previously discussed. The modified Standley does not explicitly disclose the device to

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be incorporated into a 3D-measuring system, but this would be an intended use that is known in the art and obvious to one of ordinary skill in the art because the obvious duplication of parts would result in a system capable of imaging in multiple dimensions to obtain a rendering of the object capable of being used to easily detect any defects or imperfections.

With respect to claim 14, Standley discloses a photosensor circuit comprising: photodetector (12) as a receiver which outputs an output signal in dependence on the electromagnetic radiation; switch (34) as a means for varying a sensitivity of receiver (12) between two sources (V_{bias} and I_{bias}) to connect to receiver (12) and to change the stored energy; photosensor circuit (20, 40) as an energy store connectable to receiver (12) and whose stored energy is changed in accordance to output signal; and a control means is inherent in toggling between the two modes that switch (34) provides. However, Standley does not explicitly disclose the varying of the sensitivity such that between two successive resetting events, the sensitivity is high once and low once. Standley does disclose that there is a voltage mode output to have high sensitivity to contrast within the image, but a lower sensitivity when the spread from the average intensity is smaller (see column 4, lines 40-47). To modify the teachings of Standley to modify the sensitivity between two successive resetting events is known in the art and would have been obvious to one of ordinary skill in the art because this would give the device the versatility to have an increased range of operation to be effective in all different types of lighting environments.

Allowable Subject Matter

6. Claims 8 & 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 8 & 10, the prior art of record does not disclose nor suggest that the control means controls the controllable voltage source in accordance to clock signals such that the space-charge region of the first photodiode is larger at one time (and the space-charge region of the second photodiode is smaller) and the space-charge region of the first photodiode is smaller at a second time (and the space-charge region of the second photodiode is larger) and that the switching is synchronized with the pulse time periods. As a result, claims 8 & 10 and dependent claim 11 is objected.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Lee whose telephone number is (571) 272-2440. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Pat J. Lee', with a stylized flourish at the end.

PJL
June 20, 2007

Patrick J. Lee
Examiner
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